

## ABSTRACT

Disclosed is a method and system for monitoring the accumulations of materials with the interior of a pipeline. The method of the present invention includes use of  
5 an array of temperature sensors along the outside of a pipeline, measuring the rate at which heat passing through the wall of the pipeline varies with time. Areas of lower heat loss rates are areas where materials have either been deposited upon the wall of the pipeline or are areas where a denser phase of material has been held up in the pipeline. Based upon the difference in rates of heat transfer, models  
10 can be prepared which allow for the distinguishing between the compositions of the accumulated materials.